Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-58 (Cancelled).

59 (Currently Amended). A nanostructure having a branched shape with at least ~~one~~ two elongated structure ~~element~~ elements of a first material, wherein each of said elongated structure elements has an ~~said elongated structure element being 100nm in length or less and having [[-]] at least two~~ end portion, and wherein at least one of said ~~portions, each~~ end portions ~~portion being coupled to~~bears a ~~corresponding~~ nanozone ~~and each of said nanozones being~~ of a second material that differs from said first material in at least one property selected from the group consisting of electrical conductivity, chemical reactivity and composition.

60 (Currently Amended). The nanostructure according to claim 59, wherein ~~the~~ said second material is a metal or metal alloy.

61 (Currently Amended). The nanostructure according to claim 59, wherein ~~the~~ said second material is a conductive polymer or an insulating material.

62 (Currently Amended). The nanostructure according to claim 59, wherein ~~the~~ said second material is a semiconductor material.

63-64 (Cancelled).

65 (Currently Amended). The nanostructure according to claim 59, wherein said first and second materials are each a semiconductor material selected from the group consisting of Group II-VI semiconductors, Group III-V semiconductors, Group IV-VI semiconductors, Group IV semiconductors, alloys made of these semiconductors, combinations of the semiconductors in composite structures and core/shell structures of the above semiconductors.

66 (Cancelled).

67 (Previously Presented). The nanostructure according to claim 59, wherein said first material is CdSe or CdSe/ZnS in a core/shell layered arrangement and said second material is gold.

68 (Currently Amended). A method for forming a nanostructure having at least one elongated ~~portion,~~structure element of a first material, each said elongated structure element having an end portion, and a nanozone of a second material on ~~at least one of its~~ the end ~~portions~~portion of at least one of the elongated structure elements, said first and second materials being different in at least one property

selected from the group consisting of electrical conductivity, chemical reactivity and composition, said method comprising:

- providing a solution of nanostructures consisting of a first material, each nanostructure having at least one elongated structure element ~~of a first material~~having an end portion;

- contacting said nanostructures in solution with an agent of a second material, said agent being selected from the group consisting of a metal source, a metal alloy source, a conductive polymer source, an insulating material source and a semiconductor source; and

- allowing growth of said at least one agent of a second material on ~~at least one~~the end portion of at least one of the elongated ~~portion~~ structure elements of ~~each of~~ said nanostructures, to thereby obtain nanostructures bearing at least one nanozone on ~~at least one~~the end portion of ~~said~~ at least one of the elongated structure elements.

69 (Currently Amended). The method according to claim 68, wherein said agent is selected from the group consisting of a metal source and a metal alloy source.

70 (Currently Amended). The method according to claim 68, wherein said first material is selected from the group consisting of a semiconductor material, an insulating material, a metal and a combination thereof.

71 (Previously Presented). The method according to claim 70, wherein said first material is a semiconductor material.

72 (Currently Amended). The method according to claim 71, wherein said nanostructure is selected from the group consisting of a bipod, a tripod and a tetrapod.

73 (Currently Amended). A method for forming an electrically conductive zone on a nanostructure having at least one elongated ~~portion~~structure element, said method comprising:

- providing an organic solution of semiconductor nanostructures consisting of a first material, each nanostructure having at least one elongated structure element having an end portion;

- contacting said nanostructure in said organic solution with another organic solution comprising a metal or metal alloy source, a stabilizer and/or a surfactant and/or electron donor; and

- allowing growth of said metal or metal alloy on ~~at least one~~ the end portion of at least one of the elongated ~~portion~~ structure elements of ~~each of~~ said semiconductor nanostructures, to thereby obtain semiconductor nanostructures, bearing at least one electrically conductive nanozone of metal or metal alloy on ~~said at least one~~the end

portion of ~~said~~ at least one of the elongated structure elements.

74 (Currently Amended). The method according to claim 73, wherein said nanostructure is in a form selected from the group consisting of a nanorod, a bipod, a tripod, a tetrapod, a nanowire and a nanotube.

75-80 (Cancelled).

81 (Currently Amended). A self assembled construct, comprising a plurality of nanostructures according to claim 59, wherein each nanostructure in the construct is ~~optionally~~ linked to another nanostructure in the construct through ~~its conductive zone~~the nanozones on the end portions of elongated structure elements thereof.

82 (Previously Presented). A solution comprising a plurality of nanostructures according to claim 59.

83 (Currently Amended). The solution according to claim ~~82~~98, wherein each of said nanostructures has an elongated structure element comprising at least two end portions, each being coupled to a nanozone.

84 (Previously Presented). The solution according to claim 83, wherein said elongated structure has two end portions, each being coupled to a nanozone.

85 (Cancelled).

86 (Previously Presented). The nanostructure according to claim 59, wherein each of the end portions of said elongated structure is coupled to a nanozone.

87-88 (Cancelled).

89 (Currently Amended). The nanostructure according to claim 59, being selected from the group consisting of ~~a bipod,~~ a tripod and a tetrapod.

90 (Previously Presented). The nanostructure according to claim 59, wherein said first material is selected from the group consisting of a semiconductor material, an insulating material, a metal and a combination thereof.

91 (Previously Presented). The nanostructure according to claim 65, wherein said Group II-VI semiconductors are alloys selected from the group consisting of CdSe, CdS, CdTe, ZnSe, ZnS, ZnTe, and combinations thereof.

92 (New). A nanostructure having at least one elongated structure element of a first material, wherein each of said elongated structure elements has an end portion, and wherein at least one of said end portions bears a nanozone of a second material that differs from said first material in at least one property selected from the group consisting of electrical conductivity, chemical reactivity and composition, wherein at least one of the first and second materials is a

semiconductor material, and wherein the second material is in direct contact with the first material.

93 (New). The nanostructure according to claim 92, wherein said first material is a semiconductor material and said second material is a metal or metal alloy.

94 (New). The nanostructure according to claim 92, wherein said second material is a semiconductor material.

95 (New). The nanostructure according to claim 92, wherein said first and second materials are each a semiconductor material selected from the group consisting of Group II-VI semiconductors, Group III-V semiconductors, Group IV-VI semiconductors, Group IV semiconductors, alloys made of these semiconductors, combinations of the semiconductors in composite structures and core/shell structures of the above semiconductors.

96 (New). The nanostructure according to claim 95, wherein said Group II-VI semiconductors are alloys selected from the group consisting of CdSe, CdS, CdTe, ZnSe, ZnS, ZnTe, and combinations thereof.

97 (New). A self assembled construct, comprising a plurality of nanostructures according to claim 92, wherein each nanostructure in the construct is linked to another nanostructure in the construct through the nanozones on the end portions of elongated structure elements thereof.

98 (New). A solution comprising a plurality of nanostructures according to claim 92.

99 (New). The nanostructure according to claim 92, wherein each of the end portions of said elongated structure is coupled to a nanozone.

100 (New). The nanostructure according to claim 92, being selected from the group consisting of a bipod, a tripod and a tetrapod.

101 (New). The nanostructure according to claim 59, in the shape of a branched bipod.